service to its retail customer. Furthermore, CLECs transitioning from a UNE-P provisioning platform to UNE-L via the RBOCs' proposed hot cut processes can expect to incur up-front provisioning costs that are between 890% and 1,216% higher than what they incur today.[6]

26. Despite the RBOCs' unwillingness, opportunities exist today to increase the mechanization involved in the hot cut process. Elsewhere in this Declaration, we have described procedures that would permit remote unbundling of loops served by IDLC systems. However, not all loops to which CLECs will seek access are served by IDLC facilities. Therefore, if the hot cut process is to be mechanized, some manner by which to automate the provision of copper facilities must be considered. Currently available "automated frame technology," in which the ILECs are currently investing for retail purposes, can be used to provide that functionality.

27. Automated frame technology generally encompasses a host of technologies aimed at mechanizing the manual "lift and lay" process undertaken by an ILEC today for purposes of re-routing a customer's copper-based loop from one central office piece of equipment (e.g., the ILEC's local circuit switch) to another (e.g., MCI's collocation facility). In general terms, depending upon the specific technology, the mechanization of the "lift & lay" process is accomplished either robotically or via an electronic matrix.

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6 The table above does NOT reflect what Mr. Starkey, Mr. Morrison, QSI or MCI believe to be appropriate "forward looking costs" for the activities identified. Instead, Exhibit 2 represents a generalized analysis of the ILEC's own cost studies, representing what the ILECs believe to be their own costs when manual intervention dominates the process. As such, the most important information to be gleaned from the analysis housed in Exhibit 2 is a relative comparison between the 5 undertakings as summarized in the paragraph above.

These various methods as well as the multiple vendors that support them were discussed in Exhibit SL/MS-4 of the Response Testimony of MCI Witnesses Michael Starkey and Sherry Lichtenberg in Michigan PSC Docket No. U-13891 (Batch Hot Cut).[7]

28. While MCI does not suggest that automated frame technology is in all circumstances the manner by which to automate access to unbundled copper loops, MCI does suggest that in many circumstances it would provide a viable alternative to the highly manual hot cut processes envisioned by the ILECs. Despite ILEC criticisms surrounding automated frames, Verizon actually uses automated frames within its network for its retail customers to remove manual intervention in the provisioning process for all-copper loops, and has done so for several years. In proceedings in New York, Verizon also claimed that it would use automated frame technology to perform hot cuts in offices wherein they were currently installed, although it claimed not to have used the technology for hot cuts.[8] While Verizon currently uses automated frames only in smaller central offices for retail use, the technology can be scaled to be used to serve larger offices, as well. For instance, on June 21, 2004, NHC Communications, Inc., a leading provider of automated frame solutions for copper-based networks, announced the launch of two large-scale automated frame solutions capable of handling up to 57,000 and 81,000 ports, respectively, aimed at automating the loop provisioning process in

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7 This information is available at:
http://efile.mpsc.cis.state.mi.us/efile/docs/13891/0106.pdf, and
http://efile.mpsc.cis.state.mi.us/efile/docs/13891/0107.pdf.

8 Before the State of New York, Public Service Commission, *Proceeding on Motion of the Commission to Examine the Process, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis*, Case No. 02-C-1425, Public Transcript (pages 290-293), Testimony of Michael A. Nawrocki, On Behalf of Verizon New York, Inc.

large ILEC central offices.[9] This technology is described in the NHC press release as being able to "ensure that all voice and data service will flow to any customer on the system," thereby offering three essential benefits: "small footprint, scalability and cost-effectiveness…" As this announcement demonstrates, technology exists today that can automate the hot cut process for all-copper loops, whether those loops are served from small or large central offices.

29. Throughout the state impairment proceedings, the RBOCs unanimously resisted discussions related to further mechanizing their hot cut processes using automated frame technology (as they also did with respect to unbundled IDLC technology). In large part, their arguments centered on a lack of standards related to automated frames and their perceived shortcomings of the technology related to supporting larger offices. However, like ILEC arguments related to IDLC unbundling, the facts do not support such a quick dismissal of such a promising technology, especially when one considers the obvious benefits derived from further automation.

2. Scalability

30. Because the ILECs have introduced no automation or mechanization into the provisioning aspect of the hot cut process, the Commission's concerns in the *Triennial Review Order*, regarding the scalability of the ILECs' hot cut processes remain critically valid. The ILECs' current processes simply cannot support mass market volumes of hot cuts because of their dependence on manual provisioning.

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[9] The press release announcing this automated frame technology is available at: http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=NHC.TO&script=410&layout=0&item_id=583247.

31. Throughout the multiple state-specific, TRO-related proceedings dealing with batch hot cut processes, each of the individual ILECs (BellSouth, Qwest, SBC, Verizon, etc.) explained to state commissions that they could accommodate any increase in hot cut volumes simply by managing their "force to load" processes. In other words, the ILECs disagreed that increased mechanization was required to accommodate substantial increases in demand related to hot cuts. Instead, they argued, they could rely upon workforce management to meet the increased demands. Indeed, many of the ILECs (most notably, Verizon and SBC) provided "force load" models that suggested that either their existing work force, or an increased work force, would be able to accommodate the massive undertaking associated with both (a) "cutting" millions of existing UNE-P customers to stand alone UNE-L loops and (b) accommodating the increased daily requirements of provisioning via manual hot cut all new competitive services previously handled by mechanized UNE-P processes,.

32. In response to the ILECs' state-specific testimony in this regard, we consistently argued that the ILECs' claims related to their "force to load" prowess at the dramatically increased levels that would result from the removal of UNE-P were a necessary fallacy. Clearly, no one can accurately predict the future and hence, the extent to which the ILECs' force to load management would be sufficient to accommodate hot cut demands literally hundreds of times larger than they accommodate today is an open question. Nonetheless, force manipulation alone in the face of such daunting demand increases without any automation of the provisioning aspect of the hot cut is very unlikely to be able to handle mass market volumes.

33. An important question when evaluating necessary scalability is the likely increase in hot cut demand that can be expected if UNE-P were no longer available. Toward this end, QSI developed a hot cut volume model for the state hot cut proceedings that was designed to estimate the number of hot cuts that would result in such a scenario. While the results varied across states, we calculated that in most instances, the ILEC would be faced with more than a 100-fold increase in the hot cuts it currently performs if UNE-P were no longer available. For the most part, ILECs generally performed fewer than 1,000 hot cuts per month in most states. Yet, were UNE-P to be removed as a possible provisioning scenario for CLECs, it was clear that the continued operation of the competitive market in those states would require upwards of 100,000 hot cuts per month (and in some states, 2 to 3 times that amount). While the ILECs disagreed with our estimated demand increases, even their own models estimated increases of 40- to 50-fold over existing hot cut volumes.[10] We continue to believe that addressing an increase in hot cut demand of this magnitude with the same manual processes that originally led to the FCC's impairment finding is simply not realistic.

34. Relying solely upon their manual "lift and lay" model, successfully scaling the ILEC processes to meet dramatically increased demand relies exclusively upon the ILECs' ability to hire, train and deploy substantial additional technical personnel, in an era where they are almost unilaterally reducing the very same workforce. For example, in New York, even based upon its own calculations, Verizon anticipated the need to hire and train literally thousands of new employees just to accommodate the increased volume

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10 *See infra* ¶ 41.

of hot cut demands.[11] The likelihood of this strategy to succeed, even putting aside the ILECs natural disincentive to support competition, is unlikely at best. The ILECs have made no demonstration that their processes can handle mass market volumes; all they have made are promises. Promises of future performance, particularly when they rely on throwing bodies at a problem instead of implementing automated solutions, are not sufficient. Moreover, the ILECs' proposal to handle increased volumes simply by adding workforce likely would require hot cuts to be performed by new employees with limited training and experience and, as such, there can be no assurance these processes will meet acceptable standards. Using new, inexperienced personnel to conduct an enormously increased demand for hot cuts will undoubtedly lead to a high error rate, which, in turn would lead to service-affecting problems for end user customers.

35. Not all the ILECs propose to add to their work forces. SBC has claimed that its existing work forces are sufficient to handle the dramatically increased hot cut demand, and that if necessary it will shift workers from other areas – such as UNE-P provisioning – to handle hot cuts. Given the substantial differences between provisioning UNE-L and UNE-P, it is not realistic to suggest that ILECs' workforces are fungible and can easily be shifted from UNE-P to meet UNE-L demand.

36. For example, SBC claimed that it does not need to hire additional personnel for the Local Service Center, which handles orders for UNE-P and UNE-L that fall to manual, because as demand for UNE-P decreased, workers could be moved to handle UNE-L fallout going forward. However, the "fallout" rate (or the likelihood of the order

[11] *See* Verizon's Panel Testimony filed October 24, 2003, New York Case No. 02-C-1425, Exhibit V-A, Force Load Model ("FLM").

falling out of automated provisioning for manual processing) for UNE-P is much lower than for UNE-L. Specifically, in California, SBC's expert testified that the fallout rate for UNE-P is approximately 25% and the fallout rate for UNE-L is 55%, or more than double. Thus, even if SBC were able to move every service representative currently handling UNE-P to UNE-L, and assuming the exact same number of UNE-P and UNE-L orders, the workload for UNE-L would be double the existing workload due to the much higher fallout rate for UNE-L. Similarly, in BellSouth's territory, UNE-P achieves a flow-through rate of approximately 85%, when, by comparison, less than 37% of UNE-L hot cuts flow through. Since 48% more UNE-L orders require manual intervention than do UNE-P orders, BellSouth's current workforce, if efficiently sized for existing orders, would not be able to handle the work necessary in an environment without UNE-P. Furthermore, ILECs have suggested that they will address the increase in workload by moving personnel around and through the use of overtime. However, it is not realistic to simply shuffle personnel from place to place in an attempt to handle a workload 100 times higher than current hot cut workloads. This is particularly true with regard to central office technicians. There is obviously some physical limit to the distance ILECs could expect any given technician to travel on a daily basis to perform the wiring work associated with hot cuts. Further, as the technician spends time driving between central offices, he or she will have many fewer productive hours per day to handle wiring work. If any of the personnel handling hot cuts are union members, it is our understanding that some ILECs would have to negotiate with the union regarding reallocation of technicians handling hot cuts. Thus, it is likely that an ILEC would be unable to find technicians willing to agree to accept the disruption of being sent "hither and yon" week after week, and month after month, to perform hot cuts, simply to keep up with an order volume currently handled on a completely automated basis via UNE-P.

37. Even if an ILEC somehow could move hundreds of workers throughout the state to perform wiring work for hot cuts, there is a practical limit as to the number of technicians that can work safely and efficiently on the wiring frame in the central office at one time. Because frames are a finite size, technicians would be tripping over one another if the ILEC attempted to move large numbers of technicians to a particular central office simultaneously to meet increases in hot cut demand.[12]

38. Regardless of whether an ILEC hires additional personnel or does not, it is unlikely that the increase in hot cuts that would result if UNE-P is no longer available could be handled without increased automation or mechanization. ILECs currently size their workforce efficiently to handle the number and types of orders that the ILEC currently experiences. Therefore, an efficiently-sized workforce would not have enough spare capacity to meet an unprecedented, sustained increase in demand for hot cuts of over 100-fold. If the ILEC moves technicians from one central office to assist with hot

[12] "Even if SBC's workforce grew to handle the increased volume of hot cuts, physical space constraints limit the number of technicians that can simultaneously perform wiring work efficiently and safely on the distribution frame, particularly since hot cuts for a large group of residential customers will generally appear at random frame locations. Technicians' ability to move around the distribution frame to make hot cuts is limited by: (1) the distribution frame size; (2) the narrow crowded aisles between frames; (3) need for a limited number of sliding ladders. Thus, practical limits will remain on the number of technicians who can do simultaneous wiring work on the frame, regardless of the number of technicians that could be dispatched to a central office with high hot cut demand, without disrupting one another's wiring work, reducing efficiency and possibly creating safety hazards. SBC witness Mitchell admitted that current floor space plans do not anticipate TRO requirements." California Rulemaking 95-04-043/Investigation 95-04-44, *Draft Opinion Regarding Hot Cut Processes and Pricing Draft,* July 28, 2004, p. 27.

cut wiring work in another central office, the wiring work in the original central office will go undone.

39. The public data collected during the state hot cut proceedings demonstrates that the ILECs' systems are not sufficiently scalable to handle the level of hot cuts that would be required in the absence of UNE-P. Verizon, for instance, currently handles, on average, approximately 3,757 UNE-L hot cuts on a monthly basis in eight of its territories,[13] with Pennsylvania exhibiting the highest hot cut rate of 870 per month.[14] Verizon estimated that these same territories would experience a monthly hot cut demand of 165,000 hot cuts in an environment without UNE-P (an increase of 4,292%).[15] In New York, in particular, Verizon's hot cut demand would increase by 7,497%.

40. In the 3rd Quarter of 2003, BellSouth experienced an average monthly hot cut demand of 3,274.[16] This volume pales in comparison to BellSouth's estimated monthly migrations of 347,254 absent UNE-P (an increase of 10,506%), as well as the CLEC estimate of 418,459 monthly migrations (an increase of 12,681%).

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13 Data available for New York, Massachusetts, Rhode Island, Maryland, Pennsylvania, District of Columbia, Delaware, and Virginia. These states constitute 79.38% of Verizon's UNE-P lines.

14 State-specific data taken from data provided by Verizon in PAP reports, April – June 2004, Subcategory P-9-01.

15 Verizon estimated that throughout its service territory, it would experience a hot cut demand of 237,600 hot cuts per month.

16 Data taken from BellSouth's public response to AT&T's First Set of Interrogatories, Item No. 4 in GAPSC Docket No. 17749-U.

41. In SBC's territory,[17] SBC experienced an average monthly hot cut demand of 1,694.[18] However, in an environment without UNE-P, CLECs estimated that SBC would experience 137,567 hot cuts per month (an increase of 8,020%). Even SBC's own hot cut estimates support the notion that its hot cut procedures are not sufficiently scalable. In California, for instance, SBC estimated that it would experience a hot cut demand of 197,000 hot cuts in an environment without UNE-P.[19] When compared to the volume of hot cuts SBC performs in an environment with UNE-P,[20] SBC California estimated an increase in monthly hot cuts of over 44-fold in an environment without UNE-P. However, the California Administrative Law Judge that reviewed SBC's hot cut estimates found that SBC underestimated hot cuts by not including all migration scenarios, *see* California Draft Decision on Batch Hot Cuts, California Rulemaking 95-04-043, Investigation 95-04-044, dated July 20, 2004. Hence, the CLEC estimate of

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[17] SBC territory used for this example includes the following states: Arkansas, California, Illinois, Indiana, Kansas, Michigan, Oklahoma, Texas, and Wisconsin. These states comprise 86.5% of SBC's Region-wide UNE-P lines.

[18] Arkansas and Kansas data taken from Bearing Point Public Data PM 114; California data taken from Direct Testimony on Gwen Johnson, in CAPUC Docket 95-04-043 (12/15/03), pp. 4-5; Illinois data taken from SBC Joint Direct Testimony, Docket No. 03-0593 (1/9/04), pp. 50; Indiana data taken from SBC Joint Direct Testimony, Cause No. 42500-S1 (3/1/04), p. 55; Michigan data taken from SBC Joint Direct Testimony in Docket No. U-13891 (1/23/04), p. 49; Oklahoma data taken from SBC Joint Direct Testimony in Cause No. PUC 200300646, Track II (2/11/04), p. 52; Texas data taken from SBC Joint Direct Testimony in Docket 29175 (3/5/04), p. 57; Wisconsin data taken from SBC Joint Direct Testimony in Docket 05-TI-910 (2/2/04).

[19] California Draft Decision on Batch Hot Cuts at 23, referencing California Tr. 8859 (Cusolito), 2/3/04.

[20] SBC California performed an average of 4,438 hot cuts per month between November 2002 and October 2003. *See* Direct Testimony of Gwen Johnson, R.95-04-043, at 4-5 (Dec. 15, 2003).

399,284 is more accurate, and would result in an increase of 8,897% over the current hot cut volumes.

42. Finally, a central failure of the ILECs' batch hot cut processes, and a direct indication that their proposed processes lack the ability to effectively scale for increased demand, are lengthy provisioning intervals. The intervals for batch hot cut processes proposed by Bellsouth, Verizon, and SBC are summarized below:

BellSouth Hot Cut Intervals[21]

	Line Count	Interval
Individual Hot Cuts	1-9 lines w/out coordination	3 business days
	10-14 lines w/out coordination	5 business days
	1-9 lines w/ coordination	4 business days
	10-14 lines w/ coordination	6 business days
Project	1-14 lines	same as individual
	15+ lines	negotiated dates
Batch Hot Cut	< 99 lines	15 business days
	100-200 lines	17 business days
	200+ lines	negotiated dates

Verizon Hot Cut Intervals

	Line Count	Interval
Basic Hot Cut	1-10 lines	5 business days
	11-20 lines	10 business days
	21+ lines	negotiated dates
Project	Same as Basic Hot Cut	negotiated dates
Batch Hot Cut	No pre-set limit on batch size	Between 6-26 days

[21] Unless otherwise noted, provisioning intervals refer to SL 1 loops. The provisioning intervals for individual SL 2 loops hot cuts are 4 business days and 6 business days for 1-9 SL2 loops and 10-14 SL2 loops, respectively.

SBC Hot Cut Intervals

	Line Count	Interval
Enhanced Daily	New customers only - no limit	3 business days w/o coordination
		5 business days w/ coordination
Defined Batch	1-100 lines per CLEC per CO	13 business days
Bulk Project	101+ lines	Negotiated Dates

43. As indicated above, BellSouth's proposed interval for batch hot cuts is 15 business days, and its interval for individual hot cuts is 5 days. In comparison, Bellsouth's UNE-P installation time-frame of 0.36 days for UNE-P without dispatch and 1.52 days for UNE-P with dispatch. This comparison demonstrates that CLECs would incur substantial delay in serving new customers when compared to the quick migration that occurs via UNE-P. In addition, BellSouth's proposed batch hot cut interval (15 business days) are about 3 times as long as BellSouth's retail provisioning interval (about 5 business days) and, as such, CLECs would face a considerable competitive disadvantage *vis a vis* BellSouth. Similar results are exhibited by other RBOCs. Verizon has proposed intervals ranging from 5 to 10 business days for its basic hot cut (depending on volume) and from 6 to 26 days for a batch hot cut. Likewise, SBC has proposed intervals ranging from 3 to 13 business days.

44. The long lead times proposed by the RBOCs based upon their manual hot cut processes will not meet MCI's needs.[22] Customers will not tolerate lengthy delays in

[22] The long lead times proposed by the BOCs also undercut their claims that their manual hot cut processes are scalable.

moving between carriers because they have become accustomed to the migration timeframes established by the ILECs for their highly automated retail service delivery (and recently by CLEC services fueled via UNE-P). Customers will not know or care that a move in the future entails a move from UNE-P to UNE-L, nor will customers pay much heed to the ILECs' arguments that more complicated and time consuming activities must be accomplished in a hot cut scenario. Customers will care, however, if the move takes longer than they currently experience or if the product they are ultimately provided is more prone to error.

45. Short intervals are important for both migrations of embedded customers from UNE-P to UNE-L as well as for new customer acquisitions. Once MCI has the necessary processes and facilities in place to utilize its own switch, MCI would want to move its UNE-P customers to UNE-L as quickly as possible in order to make efficient and productive use of its investment in facilities. In addition, it is much more difficult to schedule MCI's technicians efficiently when dealing with such long lag times between placing hot cut orders and completion. It is much easier to allocate workforce when provisioning work can proceed within a few days of placing a hot cut order. In addition, long provisioning intervals have a bearing on the cutover of embedded UNE-P customers because of dialing features such as call forwarding, call waiting and speed dial provided by the carrier's switch. Thus, when customers are migrated from the ILEC switch to a CLEC switch, customers must be notified, and must reprogram their phone sets accordingly. With a long delay, it would be more difficult for customers to remember when to reprogram their phone sets and for CLECs to coordinate with the customer to "synch up" the cut over with the customer's reprogramming activities.

3. Unavailability of Required Order Types

46. The ILECs' hot cut processes also suffer from the fundamental flaw of excluding large categories of scenarios. For example, SBC refuses to perform a hot cut on a loop unless the loop is currently connected directly to SBC's switch providing *voice* service. This would exclude any customer who has a line splitting arrangement by which he or she receives Digital Subscriber Line ("DSL") service. Hot cuts involving EELs are also unavailable. And, as is discussed in more detail below, the ILECs will not unbundle IDLC loops, but instead will move customers to an alternate facility in order to migrate their service to a UNE-L CLEC. While these types of orders may not be the most prevalent scenarios, they will nonetheless constitute a material portion of a CLEC's service orders, and they will require a hot cut. Further, if UNE-P is no longer available, the quantity of these types of orders is likely to increase dramatically over time.

47. *Loop-to-EEL Hot Cuts.* MCI is collocated in only a fraction of the ILECs' central offices. Therefore, if UNE-P is rendered unavailable, MCI must either serve these customers via EELs or immediately collocate in literally hundreds of central offices. An EEL is nothing more than a loop connected to a transport circuit directly, instead of through a CLEC collocation cage. In both circumstances, the CLEC's circuit switch resides at the other end of the circuit and provides the customer dial tone. As such, an EEL by definition includes a loop and were a CLEC to win an ILEC customer, and wish to serve that customer via an EEL, the CLEC would need a hot cut of that customer loop to a transport facility ultimately connecting its switch to the customer. Given the time and cost associated with building collocations, CLECs will need to use EELs to route

customer lines from the MDF in the customer's home wire center to a second wire center where the CLEC is collocated. Only with a readily available EEL offering will CLECs be able to maximize the number of customers that it can serve without building additional collocations (or until those collocations are built and ready to serve mass market customers). Without the ability to hot cut customers to an EEL, CLECs will be relegated to providing service only in those central offices where they are collocated.

48. *xDSL Loops*. Data services are becoming an ever-increasing part of full-service communications packages offered by CLECs and ILECs. DSL growth rates are still dramatic as literally thousands of new DSL subscribers join the ranks of the broadband subscribership everyday. The Commission recently released data showing that high speed lines among residential and small business customers have increased by 1,349% over the last four years alone.[23] The most recent data shows that that this momentum is continuing. High speed lines for residential and small business customers grew by 19% between December 2002 and June 2003, and grew by 26% between June 2003 and December 2003.[24]

49. Due to the dramatic increase in customer broadband demands, it is becoming far more common to encounter subscribers who have DSL services on their existing loop, but want to change either their entire service package, or just their voice services, to another carrier. Either of these scenarios is likely to require a hot cut and should be included in the improved hot cut processes. Another major factor that will affect CLECs'

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[23] High Speed Services for Internet Access: Status as of December 31, 2003. Industry Analysis and Technology Division Wireline Competition Bureau (June 2004), Table 3.

[24] *Id.*

ability to serve customers combined voice and data services over a single loop in an environment without UNE-P is the CLECs' ability to use the cross-connections to the ILEC's MDF that are currently in place to provide what has been referred to as CLEC switched line splitting (or a line splitting arrangement utilizing a CLEC-owned circuit switch to provide voice service). Because ILECs have claimed that hot cuts should only include loops currently connected to the ILEC's switch providing voice service, the ILECs have refused to include CLEC-switched line splitting arrangements in their daily hot cut processes and have proposed to address these migrations by terminating the customer's loop at the voice-CLEC's collocation arrangement during a hot cut. The ILECs' proposal would require CLECs to establish cage-to-cage cabling arrangements to transfer the customer's loop from the voice CLEC's collocation arrangement to the data CLEC's collocation arrangement. The customer's DSL service must therefore be disconnected while the voice portion of the customer's loop is migrated to a CLEC switch. In order to reconnect the DSL service, however, the loop must be connected to a splitter located in the data CLEC's collocation arrangement. This arrangement results in an extended period during which the data service remains disconnected, thereby disrupting the continuity of the DSL data service portion of the CLEC customer's bundled voice/data service.

50. Rather than use cage-to-cage cabling, which would require each competitor to deploy cabling to every other competitor and data LEC with which it does business (and would require the competitor to dispatch technicians to ILEC central offices to provision DSL services), CLECs have pursued an approach in which the customer's loop would be transferred to the data CLEC's cage by bringing the loop back to the ILEC's MDF and

cross-connecting the loop to the data CLEC's collocation arrangement. This is the most efficient, inexpensive manner to connect the facilities of different CLECs, and will not entail extended disconnection of CLEC customers' DSL service when a hot cut for the voice service takes place.

4. CLEC-to-CLEC Hot Cuts

51. If UNE-P is no longer available, and CLECs were to provide service via UNE-L, the volume of customers served over UNE-L would increase dramatically, and CLEC-to-CLEC migrations would abound. In this type of market, wherein more and more customers are served by UNE-L, an improved hot cut process to support an UNE-L to UNE-L cutover will become increasingly important. More importantly, in this type of situation customers who initially choose a CLEC relying upon UNE-L will be largely stuck with that carrier (or the ILEC) for some period of time, because without a seamless, low-cost hot cut process, winning that customer away would be a more difficult task for any competitive carrier. In addition, the three-way coordination that takes place (between MCI, the ILEC and another CLEC) when MCI wins a customer from another competitor, under the ILECs' hot cut processes, increases the difficulty of winning customers from other competitors. This problem is also unique to CLECs, since ILECs need not undertake the same level of coordination when it wins a customer back to its service, because it is both the loop provider as well as the winning LEC, and must coordinate only with a single carrier. Further, at least one ILEC, *i.e.*, SBC, has suggested that in these circumstances it simply provides itself a new loop connecting its network to the

customer's premises so that it need not coordinate with the additional CLEC at all, except in the case of telephone number portability.

5. Rates and Rate Structure

52. One of the primary benefits of the UNE-P is that CLECs can acquire customers in an economic fashion given the relatively efficient nature of the process. If an improved hot cut process is meant to elevate UNE-L to an operational level sufficient to replace UNE-P for purposes of mass market service delivery, the non-recurring charges for a hot cut must also be economic. Unfortunately, current hot cut non-recurring charges in most states far exceed UNE-P non-recurring charges and are not even close to being economic. The ILECs did not take seriously the Commission's directive to develop batch hot cut processes that would reduce the per line hot cut costs, and, in any event, batch hot cuts would serve only the limited purpose of facilitating transitions of customer bases from UNE-P to UNE-L. Even if batch rates became economic, the non-recurring charges for individual hot cuts are of paramount importance.

53. MCI makes its market entry decisions on a wire center by wire center basis, and hot cut NRCs vary by state. Nevertheless, for purposes of this discussion and ease of reference, QSI has computed the average hot cut rates for several of the ILECs, For instance, Verizon's average current hot cut rate for an initial loop is \$36.81. Verizon proposed, on average, a basic hot cut rate of \$83.14 (an increase of 126%) and a batch hot cut rate of \$61.46 (an increase of 67%).[25] For additional loops, the current non-recurring charge (\$37.35) would be replaced by Verizon's proposed rates for basic and

25 This discussion refers to rates for non-designed circuits, or "SL1" loops.

batch hot cut rates of $41.07 and $36.84, respectively. This is particularly troubling considering that efficiencies should result as a result of performing hot cuts in batches, yet such efficiencies are not reflected in Verizon's batch hot cut rates. Verizon's hot cut pricing data is provided as Exhibit 3 to our Declaration.[26]

54. Likewise, Qwest's proposed hot cut rate ($45.96), on average, results in an increase of 12% over its current average hot cut rate of $41.02. For the additional loop, Qwest's rate proposal would result in an increase of 25%. For Qwest, however, averages do not tell the complete story. Out of 14 Qwest states, 9 states would experience price decreases for the initial loop, ranging from a high of 16.84% to a low of 0.11%. However, the five remaining states that would experience hot cut price increases comprise approximately 47% of the Qwest UNE-P lines in service in December 2003. We have provided Qwest's hot cut pricing data as Exhibit 4 to our Declaration.

55. Through the *TRO* cases, we were able to compile SBC's proposed hot cut rates for nine states.[27] Among these nine states, the average existing hot cut price is $31.05.[28] When compared to SBC's proposed rates for its Enhanced Daily hot cut process,[29] CLECs would experience an average rate increase of 32.2% when compared to

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26 BellSouth's current average hot cut rate for a SL1 loop (initial) is $58.16, compared to BellSouth's proposed average non-recurring charge of $55.13 (a 5.2% reduction). For the additional line, BellSouth's proposal would result in a reduction of 11.6%. We have provided BellSouth's pricing data as Exhibit 6.

27 California, Illinois, Indiana, Kansas, Michigan, Ohio, Oklahoma, Texas, and Wisconsin. These states comprise 94.98% of SBC's UNE-P lines.

28 This does not include service order charges.

29 Although SBC introduced the Enhanced Daily Process as part of its proposed batch hot cut processes, SBC reserved the Enhanced Daily Process for new customer

the coordinated hot cut (average rate of $41.04) and an increase of 18.1% when compared to the average frame due time rate ($36.66).[30] With a few exceptions (including hot cuts involving loops served by IDLC), SBC's proposed rates for its Defined Batch and Project Bulk Processes result in meager price decreases for CLECs. While SBC's coordinated hot cut (Enhanced Daily) rates for two states, i.e., Wisconsin and Illinois, are actually lower than the existing non-recurring charges in those states, some states would experience increases in the neighborhood of 200-300%, e.g., Michigan and Texas. These two states alone comprise approximately 40% of SBC's UNE-P lines region-wide. We have provided SBC's hot cut pricing data as Exhibit 5 to our Declaration.

56. These proposed non-recurring charges are especially egregious when one considers that ILECs regularly waive non-recurring charges for its retail customers in "winback" situations. One such example is Advice No. 04-222P-R (3/12/40), in which SBC Illinois filed a promotion to waive the non-recurring installation charges for residential "winback" customers, as well as monthly credit of $2.00 to $5.00, depending on access area.[31] ILECs are allowed to offer these types of winback offerings to mass market customers, in large part, because of the automated, low-cost manner in which loop provisioning is accomplished for retail customers. However, when one considers the highly manual loop provisioning process that the ILECs have imposed on their

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acquisitions only, *see,* Direct Testimony of Carol Chapman, MPSC Docket U-13891, Exhibit CAC-1.1, p. 3.

30 SBC testified that in some SBC states (*e.g.*, Texas), Time and Materials charges may also currently apply to coordinated hot cuts.

31 Available at: http://www.sbc.com/Large-Files/RIMS/Illinois/Promotional_Letters/04-03-12-il-04-222p-r.pdf.

competitors (and the proposed hot cut rates that reflect this manual provisioning), it will be difficult, if not impossible, for CLECs to provide similar, competitive offerings. Simply put, competitors cannot realistically "eat" the non-recurring charges proposed by ILECs in order to remain competitive with ILECs' winback offerings, unless and until those charges approach the charges incurred via UNE-P.

57. The competitive disadvantage that the CLECs would incur due to the ILECs' proposed hot cut non-recurring charges would make it especially difficult for CLECs to compete for mass market customers. Unless the non-recurring charges established for hot cuts are comparable in cost to what CLECs experience today for UNE-P (or, at a minimum are greatly reduced from the existing per line hot cut rate), the tight profit margins competitors face when competing for mass market customers will be squeezed, seriously injuring the business case for UNE-L. In the former Ameritech states, SBC's non-recurring charges for UNE-P migrations are as follows: Illinois ($4.43)[32]; Indiana ($1.59 connect and $0.72 disconnect)[33]; Michigan ($0.35)[34]; Ohio ($0.74); and Wisconsin ($0.06 connect and $0.04 disconnect).[35] If we combine connect and disconnect non-recurring charges, in states where applicable, the average UNE-P non-recurring charge for SBC/Ameritech states is, on average, $1.59. When this average UNE-P non-recurring charge is compared to the average coordinated hot cut rate proposed by SBC in the state *TRO* proceedings ($41.04), it is evident that CLECs attempting to compete in SBC's

32 ICC 20, Part 19, Section 15, 6th Revised page 9.

33 IURC 20, Part 19, Section 15, 2nd Revised page 5.

34 MPSC 20R, Part 19, Section 15, page 9.

35 PSC of W 20, Part 19, Section 15, 1st Revised page 7.

territory will incur a 2,481% increase in the up-front, non-recurring charge for UNE-L relative to UNE-P.

IV. INTEGRATED DIGITAL LOOP CARRIER

58. Despite the advantages that IDLC offers the ILECs in their provision of retail services, *see, supra,* Section II, there are distinct *disadvantages* associated with IDLC where UNE loops are concerned. First, the ILECs contend that customers served via loops relying upon IDLC cannot be unbundled and can only be accessed by a competitor (absent UNE-P or resale) by moving the customer to a different loop. This contention – which, as we discuss in this Declaration, is incorrect - leads to a plethora of problems.

59. First, any CLEC order for an unbundled loop served by IDLC requires direct manual intervention for purposes of scheduling the assignment of a new facility and a dispatch of a technician to the RT. This can cause substantial delay in the CLEC provisioning process and, if no alternative facilities are available, the entire UNE order may be rejected. In our experience, this can occur in as many as 10% to 15% of all UNE loop orders.[36] Alternatively, if another loop can be found but must be revised in some manner to provide adequate voice grade service as an unbundled loop, substantial construction charges are often required by the ILEC (in addition to the substantial delay

[36] While we searched for available information related to fallout caused by IDLC, we were unable to find any such data in the public domain. The 10% to 15% figure we mention here is based upon our own experience in working with carriers to overcome this problem. We would admit that this percentage has fallen over the past 3-5 years, but nonetheless, fallout caused by IDLC and construction charges associated with moving, repairing or otherwise securing alternative facilities are still a major concern to carriers relying upon UNE-L.

in provisioning that has already occurred and the potential for increased non-recurring charges).

60. In situations wherein no alternative spare copper or UDLC facility exists to complete the order, the ILEC will oftentimes move one of its retail customers who may be served by a copper or UDLC facility to the IDLC facility, thereby freeing that customer's copper or UDLC facility for use by the CLEC on an unbundled basis. This activity is generally referred to as a Line and Station Transfer ("LST"). While LSTs do reduce the number of "no facilities available" situations (assuming alternate facilities are available, which is not always the case), a LST often requires additional provisioning time and requires a technician dispatch to the remote terminal, thereby increasing the likelihood of service disruption and nearly guaranteeing additional costs for the CLEC. Further, an LST does nothing to limit the problems inherent in changing a customer's working loop or with respect to the quality degradation problems inherent in UDLC systems, as we describe below.

61. The diagram below taken from Telcordia Notes on the Network Issue 4 section 12.13.2.1 provides an illustrative example of a common LST.

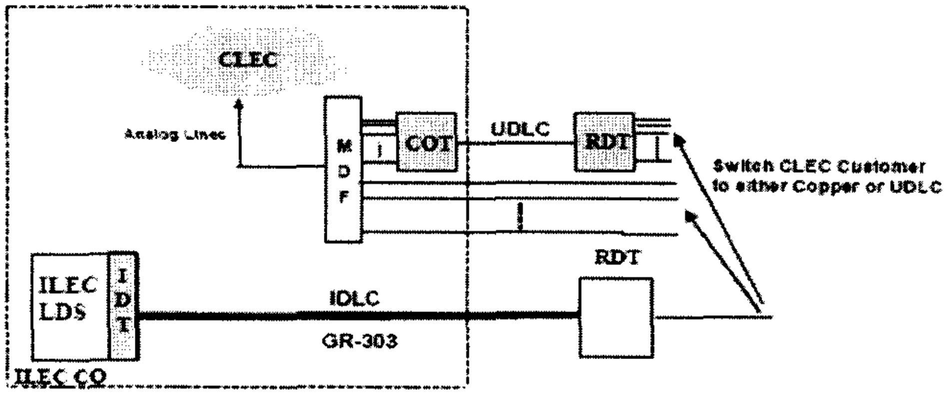

Figure 12-33. IDLC Unbundling - Bypass the IDLC System

As the diagram illustrates, the technician dispatch in an LST scenario is required at the RT, not in the CO. Therefore, the time and resultant costs required to accomplish the LST are notably increased, as is the chance for error, because in many cases assignment records for facilities at an RT or at an accompanying serving area interface ("SAI") are less accurate than those for central office facilities. Further, in some LST situations, the CLEC must dispatch its personnel to visit the customer's premises to change or validate wiring and test customer equipment, because the new facility may not terminate on the same NID appearance as the previous circuit. Such customer premise visits may require substantial re-wiring for purposes of re-establishing the customer's service. By way of comparison, a UNE-P migration in the vast majority of situations requires no dispatch at all and is accomplished solely via software. The same is true of the ILECs' retail provisioning processes against which CLECs will necessarily compete.

62. Aside from the comparatively onerous operational nature of the LST process, moving a loop from IDLC to UDLC creates a host of other technical problems, including (a) increased dial tone delay, (b) degradation of on-hook transmission services, such as caller ID, (c) degradation of signal quality as a result of multiple A/D and D/A

conversions and (d) reduction in analog modem operation speeds due to the number of A/D conversions.[37]

63. Moving a customer from IDLC to UDLC increases the number of analog-to-digital and digital-to-analog conversions inherent in the customer's local service. The primary ongoing service-related problem with this change in technology is that the UDLC architecture provided to the CLEC for purposes of serving its customer introduces dramatically reduced bit rate speeds for voice band data connections (*e.g.*, dial-up Internet access and fax machines), in many cases reducing throughput speeds by as much as 40%. As Microsoft explains, "there can be only one analog connection between your modem and the host computer" if a PC modem is to support a V.90 dial-up connection capable of operating at speeds up to 56 kilobits per second."[38] UDLC requires a minimum of three conversions between analog and digital signals,[39] thereby dramatically reducing the operating speed of the customer's circuit. While a customer may have been able to enjoy dial-up speeds approaching 56 kilobits per second with the ILEC via an IDLC connection (or as a CLEC UNE-P customer using the same facility), after having changed to a competing UNE-L provider and swapped to a UDLC system, that same customer (who likely has no idea his facility has even been changed, let alone why) will experience a far slower dial-up connection, likely dropping to lower than 33.6 kilobits per

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[37] Telcordia Notes on the Networks (SR-2275), Issue 4, October 2000.

[38] Microsoft Windows XP documentation. Latest version available at http://www.microsoft.com/windowsxp/home/using/productdoc/en/default.asp?url=/windowsxp/home/using/productdoc/en/sag_modeconcepts_211.asp.

[39] *See* Sage Emergency Petition for Stay, CC Docket No. 01-338, 96-98, 98-147 (9/22/03), p. 7.